Office of
ELECTRIC TRANSMISSION & DISTRIBUTION
ELECTRIC DISTRIBUTION TRANSFORMATION PROGRAM

Regulatory Assistance

Support for the Development of Regulatory Policies for Electricity's Second 100 Years

Background

Distributed energy resources (DER) are an important element of Grid 2030: A National Vision for Electricity's Second 100 Years. DER offer reliability, quality, and economic benefits to customers, distribution utilities, DER vendors, wholesale market participants, and regulators. However, as newcomers to the electric and power industry, DER often face regulatory barriers to their introduction.

Regulatory Practice Development

Historically, electricity regulation, zoning, and permitting processes and industry business practices were developed under the framework of an industry built around central-station generation and ownership of industry facilities by a single regulated monopoly. Unfortunately, many regulatory practices developed over the past century have unintended consequences for new technologies—even when their introduction can be win-win. Sometimes, such "legacy" regulatory principles are used to maintain market share in an industry facing unaccustomed competition.

Unintended Consequences

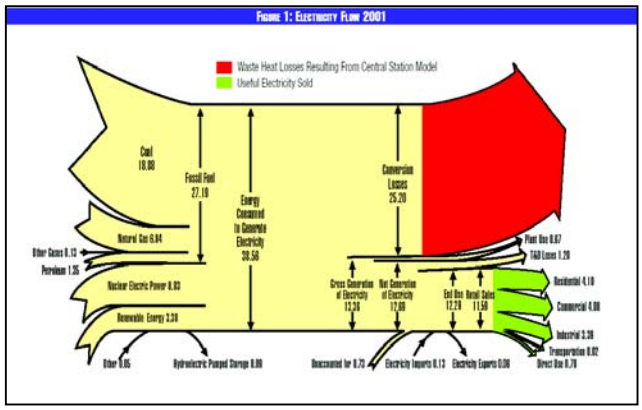
For example, state utility regulators have a practice of allowing (or even encouraging) the local monopoly provider of electricity to offer special discounts to large customers deciding whether to move to another location or expand locally. If one assumes a state-sanctioned electric monopoly and uses a static analysis that assumes many other facts are present, an argument can be made that the community, the large customer, and even the remaining customers (not receiving the discount) are all better off if the discount is provided and the large customer contributes to the "revenue requirement."

However, where new capacity is needed, it is almost always in the public interest to encourage the use of distributed cogeneration. (See figure, which illustrates that current infrastructure wastes two-thirds of the energy burned to produce electricity.)

Legacy regulatory practices can be barriers to the development of market opportunities for DER in a restructured electric power industry. The barriers need to be identified through active participation of all parties (industry, government, consumers, etc.) in developing solutions and providing leadership and education to reduce barriers.

Assistance to State Regulators

As part of Department of Energy (DOE) efforts to further development and safe and reliable deployment of DER in the nation's electricity system, the National Renewable Energy Laboratory (NREL) has worked to identify and remove the regulatory and institutional barriers that keep the full economic value of DR from being realized. NREL analyzes issues in electric utility regulation and provides workshops and education assistance to state public utility regulators.



Portion of energy in red is wasted heat

Goals

The project identifies problem areas and develops regulatory policy options that will reduce the institutional and infrastructure barriers to optimal deployment of DER systems. Policies are needed to allow wholesale and retail market structures to include DER as a competitive choice.

Specific objectives include:

1. Developing information, tools, and options for regulatory policies that will encourage the deployment of DER where cost-effective and environmentally beneficial
2. Supporting the implementation and use of these information, tools, and options; refining and customizing them for particular jurisdictions; and establishing the means and targeted draft proposals where the potential exists to remove or overcome barriers

3. Supporting the development of a national model interconnection rule through efforts by the National Association of Regulatory Utility Commissioners, the Federal Energy Regulatory Commission, and individual state commissions
4. Establishing and fostering a consensus-based approach for output-based emissions performance standards for DER that will inform state utility and environmental regulators.

Approach and Results

The work has focused on three areas:

1. Identification of barriers and development of consensus approaches to removal
2. Research, analysis, and development of information and tools needed by policymakers and stakeholders to establish options for regulatory policy for DER and evaluate those options
3. Communication of the status, direction, and relevance of the technical standards work to policymakers.

Publications

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The Regulatory Assistance Project. "Technical Status Report of the Regulatory Assistance Project: October 2001–February 2003." NREL/SR-560-33167. August 2003.

Publications are available on the NREL publications database, http://www.nrel.gov/publications/.

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NREL is a U.S. Department of Energy National Laboratory
Operated by Midwest Research Institute ● Battelle ● Bechtel

NREL/FS-560-35050 October 2003

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